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MARCH 2007 FLOOD MEETING

April 10, 2007 7:00pm

Greetings:

Mayor Steve Otis, City of Rye. Introduction of ConEdison Executives and introduction of City Manager. Welcome to residents. Invitation to participate. *Protocol: Complete presentation, then Q&A*.

City Manager:

Introduction of emergency personnel: (and Thanks to all of you)
William Connors, Police Commissioner
Chief John Wickham, Fire Department
George Mottarella, Engineer
Peter Anfuso, DPW Christian Miller, Planning & Maps
Con Edison staff—Mr. Mark Drexel (working with communities)

Purpose: To 'debrief' the community on the storm of March 2nd and solicit public comment for improved response efforts; also to discuss City of Rye flood areas and conditions faced by the community in storm events.

Executive Summary:

- Emergency response efforts: Preservation of life is First, Second, Third...
- Storm events for Rye vary: two rivers /coastline in one small area.
- Flood events studied since 1941: much of our City is in a flood plain.
- The 'Wisdom of Elders' can help you./ Their experience pays off.
- Continued examination currently underway: Corps of Engineers work.
- Our partnership with Con Edison: work we have done this past year.

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Emergency Response: preservation of life comes first.

A. Police Commissioner Connors:

- response to the March flood events
- alert to residents: R-911/ bullhorns/ fire engines
- Command Post on site
- Coordination with Fire/ DPW/ operations

B. Fire Chief Wickham:

- Fire personnel
- Coordination with police/DPW
- Posting of fire trucks at Beaver Swamp/ Blind Brook
- Preservation of life comes first: gas/electric shut downs
- Partnering with Con Edison: Mark Drexel/ Sandy Miller

C. Engineer George Mottarella

- Pre-storm protocol: cleaning all basins, drains, (Mr. Anfuso)
- Each storm varies: can be coastal, rivers or both
- Blind Brook drainage basin: 7,000 acres
- As a part of nature: flood maps generally accurate and reflect experience in this recent event.
- Floods and studies have existed as long as Rye. Certain areas are more likely to flood if they are in a flood zone.
- Studies have been done in Rye over many years (summary)

What can a homeowner do? (quite a bit) -- City staff with Con Edison

Preparation for the next storm can start now: practical hints on utilities.

(eg. moving utilities to higher ground/ efforts to 'flood proof' your home/
working with local officials and Con Edison.) Examine grids when power
needs to be shut off/ higher building codes/ acceptance of flood plain issues.

What can the City do? (Corps of Engineers work/ prior efforts) – Prior plans were rejected. The geography of a flood plain still remains susceptible. Structures have very limited application/ impact, but codes can be changed. A continued strong relationship with our utility is important. 'Old-Timers' can be very helpful with practical solutions.

Conclusion with Q & A.....

Adjourn

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MARCH FLOOD RECAP

April 10th- 7:00pm Damiano Center

CONTACT:

City Manager Ph: 967-7404

There will be a review of the flood this past March starting at 7:00pm in the Damiano Center at 281 Midland Avenue, in Rye. The Public is welcome.

The meeting will recap the emergency response by Police, Fire, DPW and other municipal personnel. Con Edison will also be represented to discuss power and safety issues in emergency conditions.

After presentations there will be an opportunity for questions. Light refreshments will be served.

LIFE IN THE FLOOD PLAIN

April 2007

In <u>Fifty Years of Rye</u>, by M. Dalphin, flooding in Rye was a problem. The 1938 hurricane riveted public attention to flooding issues, and residents expected local government to respond. The City witnessed what Blind Brook could become, and the community expressed concern. The Trustees of the Village considered different options, but the low elevation coupled with proximity to the ocean of much property in Rye presented dual flooding problems. A 'perfect storm' for Rye would be high tide, a heavy rain north of the City, and a steady wind blowing off the ocean.

By the mid-1940s the City Council had purchased property outside the City limits on the northern end of Rye at Bowman Avenue. After clearing land and constructing a spillway, the Council believed that flood controls were in place. But even as that project was being completed, skepticism was voiced. The spillway proved, "...a somewhat disappointing project and one which would be effective...only in moderate conditions of flooding." (1)

The City did not stop with that effort. After WWII the City invited the US Corps of Engineers to Rye and a study was conducted on Blind Brook. The Corps recommended a dike system stretching from the Bowman area to the Sound. That concept was roundly rejected by residents and by the Council. The project would have seen concrete walls similar to handball courts bordering Blind Brook and extending to the Boat Basin.

The most recent significant capital effort was reflected upon by Mayor Ross in his work with Edith Read at the Square House meeting last year. That effort would have seen land acquisition with a series of holding ponds constructed that would regulate the flow of water. Championed by Edith Read this involved large scale land purchases, construction, and maintenance. The cure was viewed as worse than the disease, and the vision of a series of holding ponds was never implemented.

In September of 2003 a flash flood hit Long Island Sound without warning. The storm was brief, but released a deluge of water in Rye and North of Rye. Homes throughout Westchester County and particularly in Indian Village were flooded. In March of 2007 the 7,000 acre frozen watershed above Rye turned a relatively small rain into a flood.

(1) Fifty Years of Rye, 1904-1954, by Marcia Dalphin, p. 92. (1955)

(Page One of 3)



Ocean front property and the flood plain.

Nearly one-half of the City is vulnerable to flooding from heavy rains; high tides; or a combination of both. Bounded to the East by Long Island Sound with two river ways coursing through it, our relationship to water is very close. Due to low elevations, the City is subjected twice daily to tidal flooding.

A 'Perfect Storm' for Rye would find a high tide, strong prevailing sea breeze, and a heavy rainfall in or north of us. The Blind Brook drains nearly 7000 acres upstream, and that geographic condition will remain the same.

Public discussion on this topic is not easy. Even after the Indian Village event three years ago, we found impediments to the conduct of a free and open dialogue. Some impediments were:

- a fear of adverse impact on property values;
- a lack of efficacy that flooding would occur again;
- mythology (eg. since General Foods is here, there is no flooding)
- selective listening- (people hear what they want to hear))
- resistance to changes in zoning/ building codes- (utility relocations)
- active downplaying –(this will scare off home purchasers)

The City Council cannot pass legislation that will end flooding. Rye will experience another flood. We can help residents learn to live in a floodplain; and we have a responsibility to help them. In this process we can also improve resident capacity to resist flood damage, minimize inconvenience, and improve the preservation of life.

Flooding By A Thousand Drops

In the past the City has looked for a large 'fix' to flooding. Those solutions have been disappointing (Bowman Spillway), too expensive (Edith Read), or offensive (dikes). The City has experienced all three outcomes. We believe that a legitimate approach might be found in a thousand small examples that would, in aggregate, amount to much help. For example...

(Page Two of 3)



Changes in building codes/ practices-

We currently require new construction or substantial reconstruction to raise structures above the flood plain. However, in many cases standards are waived due to any number of arguments. Each home built not in compliance with those codes becomes one more impediment to the waterway; one more resident to evacuate or rescue; one more 'flooding' issue.

Raise the Bar-

We can elevate old structures when they require replacement. The Central Avenue Bridge is now 106 years old, and needs to be replaced. It was constructed at a time when flood plains were not monitored, and it currently impedes the waterway. By raising that structure some 16 inches, we can allow water to flow more freely. By itself it will not significantly change flood conditions, but taken in aggregate with other similar efforts it will improve our situation.

Education-

This may be the least expensive but perhaps most effective intervention. New residents are often not aware that they are purchasing a home in the flood plain. There are incentives in the real estate community to downplay this condition. We need to take steps to make them aware of their new location. We also need to provide them the option of becoming familiar with what the City can do (and cannot do) when we have notice of a flood. Simple precautions can save lives.

Accepting our environment-

We live and work in a beautiful seaside community. It is not unusual for coastal communities to have special flooding issues. While we have environment programs, they do not presently underscore the benefit and burdens of flooding in our daily routines. We should look at ways to make education on this topic sexy. (We are open to ideas on this aspect.)

Thank you.

O. Paul Shew City Manager April 2007

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30 years ago.....

Excerpts:

The Blind Brook Watershed: 1978

A report on the findings of the Soil Conservation Service. (SCS) This study reports on two floodwater retarding structures and a Pumping plant as an alternative solution for flood protection.

Structures considered throughout previous planning efforts to contain Blind Brook, along with termination of studies. (Findings as reported: environmental comments)

- 1. Nontidal channel modifications (thruway to Purchase)
 - -Burdens exceeded benefits
- 2. Tidal channel modifications (Central Avenue to Locust)
 -burdens exceeded benefits
- 3. Diversion of Blind Brook to a structure south of Pepisco.

 -burdens exceeded benefits
- 4. Diversion of Blind Brook from Bowman spillway to Sound -burdens exceeded benefits/environmental issues
- 5. Pumping plant at mouth of Blind Brook -burden exceeded benefits/environmental
- 6. Retention basin from Midland to Blind Brook
 -acauisition of land exceeds benefits
- 7. Retention of floodwater behind Bowman spillway -expansion of dam exceeds benefits
- 8. Removal of Rye Nature Center bridge (surcharge issue) -destruction of bridge exceeds benefit/ historic structure
- 9. Construction of runoff basins into different 'reaches' -cost of diversion exceeds benefits
- 10. reforestation of Westchester Country Club slopes -no demonstrable level of flood reduction
- 11. widen channel in reach #5 (above Rye)
 -this would increase velocity in floodwater downstream
- 12. Use of Geigy property as a retention basin -burdens outweigh benefit
- 13. Dredge Price's Pond for greater retention -burden exceeds benefit
- 14. Increased culvert capacity on East Branch -this should be considered
- 15. Channel improvements through junior high school grounds -burdens outweigh marginal benefits
- 16. Floodwater retarding structure and eight dikes (NED Plan)
 -no sponsors for this approach

This is a partial report on the studies coming out of the 1972 flood studies and reports, with special thanks to all those who donated their time to this effort.



BACKGROUND

Blind Brook Watershed comprises approximately 6,980 acres or 10.91 square miles in Westchester County, New York and Fairfield County, Connecticut. The lower portion of the watershed, which includes most of the city of Rye (population 15,869) and a small portion of the village of Port Chester, is urban in character. The upper portion is more suburban, containing much of the undeveloped land in the watershed.

Significant resources that have been identified in the watershed and need to be considered in any comprehensive planning effort include:

The aesthetics of Blind Brook and attractively landscaped residential areas.

The remaining undeveloped green areas which provide a buffer for residents and habitat for existing wildlife populations.

Approximately 5 acres of upland freshwater wetland and 23 acres of tidal wetland at the outlet of Blind Brook.

A good quality brackish and salt water sport fishery in Milton Harbor.

Existing habitat for endangered or threatened species including the American osprey and Blandings turtle.

The inclusion of two properties on the National Register of Historic Places, Purchase-Red Hall (Ophir Hall) and the Square House or Widow Haviland's Tavern.

The principal water course of the watershed is Blind Brook and its tributaries, Little Brook, and East Branch. Blind Brook heads in the town of Greenwich, Connecticut near the New York State border. It flows in a southerly direction being joined by Little Brook at the Hutchinson River Parkway and East Branch at Bowman Avenue. To facilitate discussion, the following reaches were designated:

Reach 1 - Mouth to Boston Post Road.

Reach 2 - Boston Post Road to Locust Avenue.

Reach 3 - Locust Avenue to New England Thruway.

Reach 4 - New England Thruway to Confluence of the East Branch.

Reach 5 - Confluence of the East Branch to Hutchinson River Parkway.

Reach 6 - Hutchinson River Parkway to Source.

Reach 7 - East Branch Mouth to Source.

The primary water resource problem is flooding of the highly developed urban flood plain of Blind Brook. Damages occur to residences, yards, public buildings, businesses, streets, culverts, and bridges.

In view of existing resource problems, the Blind Brook Watershed Planning Committee and public provided the Soil Conservation Service with a summary of necessary and desirable protection and environmental goals. It is with these goals in mind that the Service has progressed in pursuing a satisfactory solution.

FLOOD PROTECTION GOALS - MUSTS

ALL REACHES:

Floodwaters should be kept out of all habitable structures, including basements.

Maintenance of at least an adequate (not minimal) traffic circulation network for emergency vehicles on public roads.

Maintenance of gas and electrical services.

Protection against petroleum storage rupture and fire at service stations.

Protection of elderly living in high risk areas (maybe achieved by other measures).

Reduction of streambank erosion; protect against failure of walls.

REACH # 1: MILTON HARBOR TO BOSTON POST ROAD

Protect the quality of the high school athletic field. Occasional submersion is permissible if no erosion or sedimentation results.

Protection of marina and harbor from sedimentation and hydraulic force of freshwater crest.

Maintenance of traffic flow across Oakland Beach Avenue Bridge (to provide access to isolated areas and permit firehouse access).

Preserve capacity of Blind Brook Sewage Treatment Plant, particularly from infiltration and inflow, during stormwater periods.

REACH #2: BOSTON POST ROAD TO LOCUST AVENUE

Protection of YMCA from direct damage and from backflow in sanitary sewers.

Protection of library.

Protection of business structures.

REACH #3: LOCUST AVENUE TO HIGHLAND AVENUE

Protect business establishments.

Provide protection for long term parking of cars in public lots between Elm and Locust, and in the angle between Elm and Fremd.

Provide traffic maintenance on Ridgewood Drive off end of Mendota Avenue.

REACH #4: HIGHLAND AVENUE TO BOWMAN AVENUE

Protect Rye Medical Center.

Protect Highland Hall Apartments (which therefore means no water in Wappanoca Avenue).

Access for homes on Matthews Estate along Blind Brook, west of Ridge Street.

REACH #5: BOWMAN AVENUE TO HUTCHINSON RIVER PARKWAY

Channel clearance.

Preserve existing retention areas.

Flood protection methods should permit reasonable development of vacant land along this reach, unless the owners thereof are fully compensated.

Control drainage from Rye Town Hilton.

REACH #6

Assessment of the SUNY development plan for flood impact and protection features.

REACH #7: EAST BRANCH

Protect Rye Ridge Apartments.

Control Rye Town Hilton drainage and siltation.

FLOOD PROTECTION GOALS - WANTS

ALL REACHES

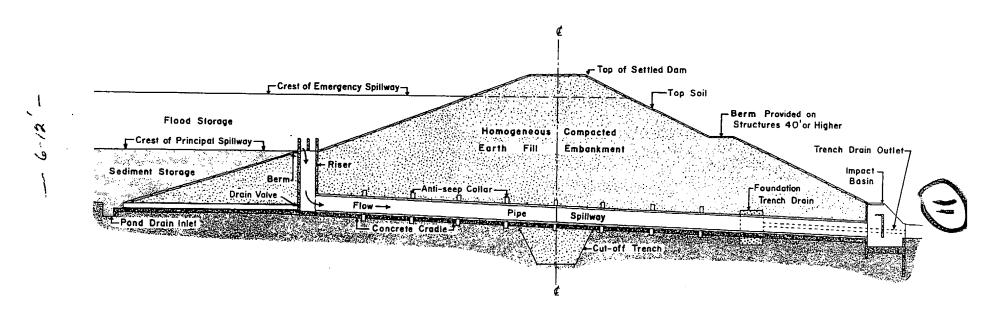
Minimal damage to yards, gardens, and outbuildings. (Note: these damages are not covered by flood insurance.)

Reduction of streambank erosion; erosion protection only.

Repair streambank walls.

Identify potential blockage of flow caused by trees.





TYPICAL CROSS SECTION OF FLOODWATER RETARDING STRUCTURE

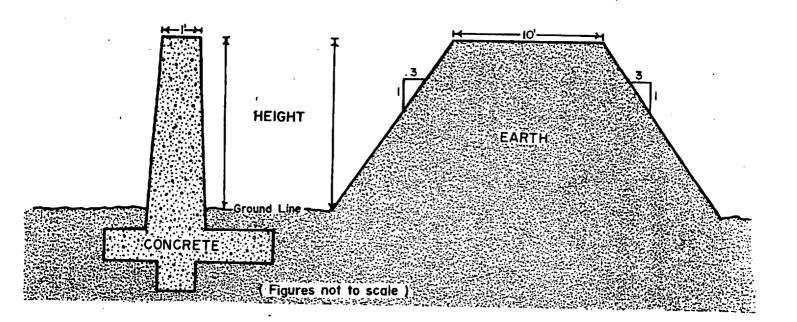
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STRUCTURAL DATA - DIKES

NAME	MATERIAL	MAXIMUM HEIGHT	LENGTH	BOTTOM WIDTH
Hewlett Avenue	Concrete Earth	11 feet 11 feet	1,300 ft. 400 ft.	1.5 ft.
Oakland Beach	Concrete	11 feet	3,000 ft.	1.5 ft.
	Earth	None	None	None
Crescent Avenue	Concrete	11 feet	400 ft.	1.5 ft.
	Earth	12 feet	600 ft.	80 ft.
Brookdale Place	Concrete	12 feet	400 ft.	1.5 ft.
	Earth	12 feet	900 ft.	80 ft.
School Track	Concrete	8 feet	200 ft.	1.5 ft.
	Earth	11 feet	500 ft.	76 ft.
Barbara Court-	Concrete	8 feet	1,400 ft.	1.5 ft.
Laurel Street	Earth	7 feet	800 ft.	52 ft.
Boston Post Road	Concrete	6 feet	400 ft.	1.5 ft.
	Earth	None	None	None

It should be noted that dike heights have changed as a result of lower tide levels and Kelsh Plot survey data on ground elevations. In some cases, the ground elevations were lower by a greater magnitude than the decrease of the tidal level. This situation resulted in a higher dike level where it occurs than those previously presented. Also while the decrease in dike heights in some areas have resulted in less cost, the poor foundation encountered have absorbed anticipated savings. Therefore, the previously presented cost estimates will remain reasonable until more detailed geologic and survey data become available.

TYPICAL DIKE PROPORTIONS



BLIND BROOK

PROGRESS REPORT

August 6, 1974

- 1941 City of Rye constructed concrete retarding dam south of Bowman Ave.
- Nov. 27, 1945 James C. Harding, Report to Westchester County Board of Supervisors on Storm Water Control.
- 1954 PL-566 Small Watershed Program legislation enacted.
- Rye League of Women Voters studied Federal and State laws concerned with water resources, including flood control.

 The law which offered the greatest amount of Federal cost sharing to local communities was the Small Watershed Protection and Flood Prevention Act, PL-566. At this time, PL-566 was designed primarily to provide federal financial assistance to rural and agricultural areas.
- Sept. 1962 Amendments to PL-566 included federal cost sharing fish and wildlife improvement and recreation, and included other urban benefits. This is in addition to federal cost sharing for flood control.
- Nov. 1962 After tabulating the results of their questionnaire concerning flooding conditions in the City of Rye, the Rye League of Women Voters requested the Rye City Council to apply for a multi-purpose flood control project under PL-566.
- March 1964 U.S. Army Corps of Engineers completed their preliminary flood control report on Blind Brook. Costs outweighed benefits so the Corps would not proceed further with a flood control project.
- May 15, 1964 The Rye League of Women Voters requested the City Council to ask the County Board of Supervisors to establish a Soil and Water Conservation District. (The League had been advised that the quickest and easiest way to obtain a PL-566 project was through a Soil & Water Conservation District).
- Sept. 17,1964 Mr. James C. Harding sent an application for the PL-566 Blind Brook flood control project to the U.S. Secretary of Agriculture, to the New York State Water Resources Commission, and the State Conservationist of the Soil Conservation Service for their approval.
- Jan. 1965

 U.S. Army Corps of Engineers, Flood Plain Information Study,
 Blind Brook, and Tributaries New York, includes maps of areas
 flooded at various storm frequencies.



The New York State League's Water Resources chairman appointed a member of her committee as coordinator of all the local Westchester Leagues in an effort to promote the creation of a Soil and Water Conservation District of Westchester County.

Aug., 1967 First meeting of Board of Directors of District. First piece of business filing of application for a multi-purpose survey for flood control of the Blind Brook Watershed under PL-566.

Aug. 14, 1968 Blind Brook Watershed - Preliminary Evaluation (Draft)

1968-1972 Processing of PL-566 application for assistance continued although in a halting manner since the potential sponsors of the project did not feel able to give SCS assurance that the needed lands could be acquired and, therefore, SCS did not provide further studies or proposals for solving the flood problem in Rye.

Nov. 19, 1973 Interagency field reconnaissance of fish and wildlife in the watershed was conducted.

1973 Federal Water Resources Council regulations direct federal agencies to give full consideration to all structural and non-structural alternatives in planning flood control work on flood plains. This meant that the PL-566 application for assistance had to be resubmitted.

1974 Water Resources Development Act (PI-93-251) reinforced the above requirement for resubmission of application.

May 15, 1974 Representatives of the County Planning Dept. and County Dept. of Public Works met with state and county Soil Conservation Service personnel to review the status of planning on Blind Brook. Dr. Robert H. Arnold of Briarcliff College introduced as SCS Planning Coordinator of Blind Brook.

May 17, 1974 County and SCS personnel conduct a followup meeting in more detail.

June 6, 1974 Westchester County Soil & Water Conservation Board meeting. Planning on Blind Brook was summarized for the board.

June 13,14,24 Mrs. Edith Read, Rye City councilwoman, guided Bob Arnold on a series of walking tours of Blind Brook and its tributaries. On one or more occasions, they were accompanied by Mrs. Nancy Lamb, Rye City Conservation Commission; Mr. Gary Taylor, Rye City Councilman; and Mr. Donald Read of Purchase.

Aug. 6, 1974 Public meeting for citizens of Blind Brook Watershed--purpose: discussion of data gathering needs and organization of task forces. Sponsored by Westchester County Soil & Water Conservation District.



Blind Brook Progress Reports (1941-1974) (65 Years Ago)

There may be something to be learned from the past. Preceding this is a summary of events that had been undertaken in Rye regarding the Blind Brook and its environs. Many talented residents and skilled professionals spent their time on these studies. They are worthy efforts.

Tonight we hope to learn from residents about their experiences: both in public safety and in the flood plain. We would like to distill those ideas and opinions into a cogent strategy, and your help will be needed. The Corps of Engineers is currently reviewing Blind Brook.

Prior studies lend some validity to the 'wisdom of elders', or those that have lived in and around Blind Brook. In the past few years we have received a wealth on knowledge from residents that have lived through floods in Indian Village, and we acknowledge their contributions. Their help, patience and experience are appreciated.

We hope that this evening has been useful to you; and we look forward to a continued effort to understand and deal with flooding, especially as it relates to life in the flood plain. While there are no means by which to end floods, there are ways in which to minimize their damage.

In moving forward there may be value in meeting with some of the people who have worked on this in the past. Thousands of hours have been dedicated by them to this issue. Hearing first-hand from them about their efforts and experiences may be productive.

Thank you.

City of Rye April 2007



THANK YOU FOR COMING....

On behalf of the Mayor and City Council, we appreciate your time and concern. We would encourage your participation in local government, and hope that you will continue to lend your ideas, encouragement and time to making Rye an even better community.

See our web page at: ryeny.gov



OTHEOWIRE re proper igue, tak uədəp

In order to meet leueral guidelines, the flood-prevention system must have a positive cost-benefit ratio and must be efficient enough to handle the waters of a 100-year flood.

'n the last three years, we have seen three floods, one described as a 50-year flood and two described as 20-year floods. It certainly is not going to stop raining. I do not live where a dike would be built but, if I did, I would be thankful

fessional engineers who have studied the alternatives in great detail. It is important that we not be short sighted and that we express our support for this much needed proposal that will protect our entire community from a potential disas-

WE HAVE HAU ON A

PATRICIA TODD Rye

Aarch Z

Critical decision due

At Rye City Hall Saturday at 9 a.m., a critical, but not final, decision must be made:

1. Call it quits, terminate the federal SCS flood-control efforts and start again from ground zero.

2. Choose between one of the two SCS projects unveiled last Wednesday for final detailed analysis, changes and improvements, with a final presentation in about three months.

AFTER MORE than two years of field testing and employing the most advanced technical and analytical methods, the SCS of the Department of Agriculture had reviewed virtually all means of flood control for the Blind Brook watershed. Now the SCS has rec-

ommended two plans at acceptable costbenefit ratios that are essentially the same except that one employs more earthen dikes and encroaches 3.8 acres on key salt marshes while the other uses largely concrete dikes, not using marsh-

Now the community must tell the SCS which plan it prefers and wishes to have "fine tuned" for final approval of watershed residents. Citizens for Responsible Flood Control urges you to study the SCS proposals and ask the SCS to proceed. J. CLARKE, A.B. DETERS,

WARD Citizens for **Responible Flood Control**

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equacy (including alternative sources of power) the present run-off not be hampered;
—That detailed information be provided on landscapng the earthen and concrete structures and sound-proof of property owners

The unanimous council action, which does not me the city cannot change its mind later, according Mayor John Carey, came after years of study and wee of meeting with affected residents. cated support, if their towns do not have to pay asked Rye, Harrison and Rye Town officials have indi of Rye,

—That proposed pumps for the removal of run-off underground water behind structures be checked for council also urged the SCS to consider the following In voting to support the earthen-dike and tha

".msldorq aint of svianoge |-naM "+:", council has been extremely David Gile said, "I think the entire cated to floor control book of bests book ship ass: -ibab ars linmos of the endomer though of be Pointing out that the Republican for action we're going to get the job done

ick Hunziker

